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Smart
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Melexis
INSPIRED. ENGINEERING

The background of the right page features a complex, light blue and green circuit board pattern. In the center, there is a faint, stylized map of Europe. The Melexis logo and tagline are overlaid on this background.

PTC-04 and Daughterboard

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PTC-04 AND DAUGHTERBOARD

The Melexis family of programmable sensors are designed to be integrated into an application and then programmed. Programming allows for setting the various operating modes inside the chip and for performing an end-of-line calibration which reduces or removes residual error due to mechanical tolerances for example.

To program the sensor the PTC-04 (programmed through connector) programming tool is used. The PTC-04 connects between a PC and the sensor to be programmed and manages the conversion of commands from the PC to the sensor. An easy to use UI is provided for every product allowing for easy development. For production environments, a DLL is also provided that can be called from Labview, Visual Basic, C#, or any language that supports ActiveX COM libraries thus enabling the automation of the calibration process.

The PTC-04 programmer is designed for efficient, precise calibration of the Melexis families of programmable ICs and can be easily adapted to a standard PC and to an application module to allow calibration of programmable sensor ICs within the operating environment.

The PTC-04 programmer contains its own programmable power supply and measurement circuitry. It's similar to a standard EEPROM programmer, but adds many special features such as 16-bit voltage and current measurement capability, and configuration options that will accommodate users from the prototyping phase directly into production. A PC is required to load software to the programmer and control the functions of the programmer.

Communication is done through a standard RS-232 null modem cable to a COM port of the PC or via USB. The PC requires no custom configuration, allowing the programmer to be used with any PC with a COM port speed of 115.2kbs or a standard USB 1.1 or USB 2.0 (Type A) interface.

```
using System;
using System.Windows.Forms;
using PSF090365AAHLMXModule;
using PTC04PSFModule;
using CommLib;
using MLX04PTCCommon;

namespace MLX90316_C_sharp_Demo
{
    public partial class Form1 : Form
    {
        private static PSF090365AAHLMXDevice Dev;
        private PSF090365AAHLMXAdvanced Advanced;
        private PSF090365AAHLMXSolver Solver;
        private PTC04PSFDevice PTC04;
        private PSF090365AAHLMXManager PSFMan;

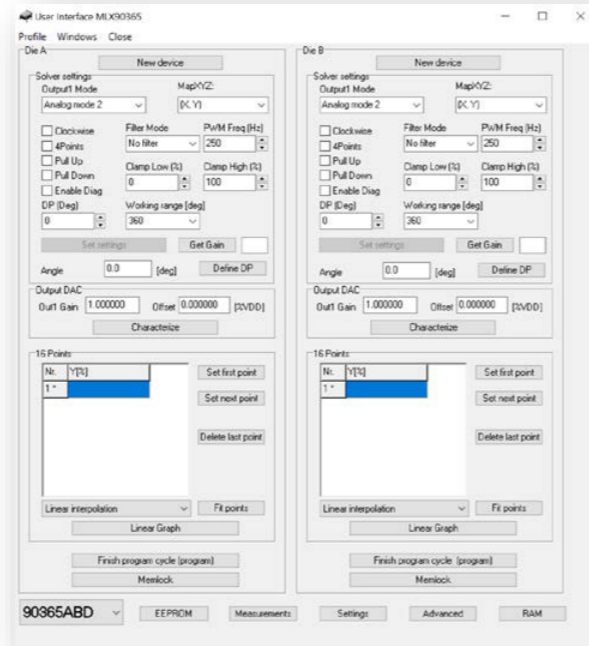
        private bool connected = false;
        private ObjectCollection devicesCol;

        public Form1()
        {
            InitializeComponent();
        }

        private void Exit_Click(object sender, EventArgs e)
        {
        }

        private void BTN_Connect_Click(object sender, EventArgs e)
        {
            int temp;
            PSFMan = new PSF090365AAHLMXManager();
            devicesCol = new ObjectCollection();
            if (connected == false)
            {
                devicesCol = (ObjectCollection)PSFMan.ScanStandalone(DeviceType.dtSerial);
            }
            if (devicesCol.Count <= 0)
            {
                MessageBox.Show("No PTC-04 programmers found.");
                return;
            }
            if (devicesCol.Count >= 1)
            {
            }
        }
    }
}
```

Example C# code for automation



UI tool for development



PTC-04 programming tool

Daughterboards for Triaxis position sensor products	
Triaxis sensor	Daughterboard required
MLX90316	PTC-04-DB-90316
MLX90324	PTC-04-DB-90316
MLX90333	PTC-04-DB-90316
MLX90340	PTC-04-DB-90316
MLX90360	PTC-04-DB-90316
MLX90363	DB-SPI or N/A ⁽¹⁾
MLX90364	PTC-04-DB-90316 or PTC-04-DB-HALL06 ⁽²⁾
MLX90365	PTC-04-DB-90316 or PTC-04-DB-HALL06 ⁽²⁾
MLX90366	PTC-04-DB-90316 or PTC-04-DB-HALL06 ⁽²⁾
MLX90367	PTC-04-DB-90316 or PTC-04-DB-HALL06 ⁽²⁾
MLX90371	PTC-04-DB-HALL06
MLX90372	PTC-04-DB-HALL06
MLX90373	PTC-04-DB-HALL06
MLX90374	PTC-04-DB-HALL06
MLX90378	PTC-04-DB-HALL06
MLX90393	N/A ⁽¹⁾

- (1) The MLX90363 and MLX90393 can be programmed via SPI and therefore do not require the use of the PTC-04
- (2) Compatibility with PTC-04-DB-HALL06 available late 2019
- (3) PWM Output
- (4) PSi5 Output

Daughterboards for Linear Hall position sensor products	
Linear Hall sensor	Daughterboard required
MLX90293	PTC-04-DB-90316
MLX90292	PTC-04-DB-HALL03 ⁽³⁾ or PTC-04-DB-HALL04 ⁽⁴⁾
MLX90288	PTC-04-DB-HALL03
MLX90251	PTC-04-DB-HALL01
MLX90215	PTC-04-DB-HALL01

Daughterboards for Latches & Switches	
Latch / Switch	Daughterboard required
MLX92232	PTC04-DB-922xx
MLX92242	PTC04-DB-922xx
MLX92292	PTC04-DB-922xx

Daughterboards for current sensors	
Current sensor	Daughterboard required
MLX91206	PTC-04-DB-HALL03
MLX91207	PTC-04-DB-HALL03
MLX91208	PTC-04-DB-HALL05
MLX91209	PTC-04-DB-HALL05
MLX91216	PTC-04-DB-HALL05
MLX91217	PTC-04-DB-HALL05